

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An electromagnetic pump comprising:

a cylinder;

a moving member (10) being movably accommodated in said cylinder, said moving member (10) having a permanent magnet;

an air-core electromagnetic coil (50a, 50b) being fitted around said cylinder, said air-core electromagnetic coil reciprocally moving said moving member (10) in the axial direction when electricity is supplied to said coil; ~~and~~

pump chambers (30a, 30b) for sending a fluid, said pump chambers being formed in said cylinder, ~~characterized in;~~

~~that~~ an air-core detecting coil (53) for detecting reciprocating motion of said moving member (10) is fitted around said cylinder so as to be coaxial with said air-core electromagnetic coils (50a, 50b);

said air-core detecting coil (53) being fitted close to axial end faces of said air-core electromagnetic coils (50a, 50b), which are faced to each other; and

yokes (26a, 26b) are provided to axial end faces of said air-core detecting coil (53), and an outer yoke (52) is provided on an outer circumferential face thereof.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) The electromagnetic pump according to claim 1, wherein frequency of induced voltage of said air-core detecting coil (53) is twice as high as frequency of the reciprocating motion of said moving member (10).

5. (Currently Amended) The electromagnetic pump according to claim 1, wherein flow volume of said electromagnetic pump is detected on the basis of the induced voltage detected by said air-core detecting coil (53).

6. (Currently Amended) The electromagnetic pump according to claim 1, wherein flow volume of said electromagnetic pump greater than a prescribed value or not is detected on the basis of a threshold value of the induced voltage detected by said air-core detecting coil (53).

7. (Currently Amended) The electromagnetic pump according to claim 1, wherein a normal or abnormal reciprocating motion of said moving member (10) is detected on the basis of a threshold value of the induced voltage detected by said air-core detecting coil (53).

8. (Currently Amended) The electromagnetic pump according to claim 1, wherein motion of said moving member (10) is controlled on the basis of a threshold value of the induced voltage detected by said air-core detecting coil (53).

9. (Currently Amended) The electromagnetic pump according to claim 1, wherein the induced voltage detected of said air-core detecting coil (53) is detected in a detection range, in which variation of the induced voltage caused by magnetization of said air-core electromagnetic coil (50a, 50b) is small.